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10/537,425

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Vito Alanzo

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EXAMINER

GILLESPIE, BENJAMIN

ART UNIT

PAPER NUMBER

1796

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,425	<b>Applicant(s)</b> ALANZO ET AL.	
	<b>Examiner</b> BENJAMIN J. GILLESPIE	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 6-7, 11, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yao et al ('518). Yao et al teach reversibly blocked non-ionic water dispersible polyisocyanates and a method of their production comprising the reaction of (i) polyisocyanate and (ii) dihydroxy polyether, thereby forming an intermediate having free isocyanate groups which are then masked with (iii) isocyanate blocking agent (Example 1). In particular, (ii) has a structure that corresponds to applicants' non-ionic alkoxyated diol having the (III) R<sub>1</sub> structure, and based on the stoichiometry of example 1, the isocyanate blocking agent is present relative to the free isocyanate groups in an equivalent ratio of 1.14:1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-7, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumbach et al ('536) in view of Buter et al (WO 97/19120) or in the alternative Ishiyama et al ('867). Baumbach et al teach blocked non-ionic water dispersible polyisocyanates and a method of their production comprising the reaction of (i) polyisocyanate and (ii) ethylene oxide based

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dihydroxy polyether, thereby forming an intermediate having free isocyanate groups which are then masked with (iii) isocyanate blocking agent (Abstract; col 3 lines 45-49; col 4 lines 59-66). In particular, (iii) consist of butanone oxime and 3,5-dimethylpyrazole, and are present relative to free isocyanate in an equivalent ratio ranging from 1.09:1 to 1:1.1 (Col 3 lines 26-28; col 4 lines 22-28). The resulting blocked polyisocyanate is then dispersed in water resulting in a solid's content as low as 20 wt% (Col 4 lines 56-58). Patentees fail however to teach compounds corresponding to the claimed non-ionic alkoxylated diol.

3. Buter et al also teach water dispersible compounds that comprise the reaction product of polyisocyanate and ethylene oxide based dihydroxy polyether, wherein said polyether provides hydrophilicity to the resulting compound (Abstract; page 6 lines 2-4). Specifically, the polyethers consist of polyether-1,3-propanediols such as Tegomer D-3123, D-3409, and D-3403, all of which have structures which correspond to applicants' claimed non-ionic diol (Page 3 lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art to include the dihydroxy polyethers of Buter et al in Baumbach et al since the polyethers of Buter et al satisfy the requirements set forth by Baumbach et al on column 3 lines 45-49, and it is prima facie obvious to add a known ingredient for it's known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

4. Similarly, Ishiyama et al teach water dispersible compounds comprising the reaction product of polyisocyanate and dihydroxy polyether having the same structure as claimed by applicants (Abstract; col 4 lines 29-32, 50-60). Therefore, it would have also been obvious to include the polyether of Ishiyama et al in Baumbach et al based on the same logic set forth for Buter et al.

5. Claims 4, 8-10, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumbach et al ('536) in view of Buter et al (WO 97/19120) or in the alternative Ishiyama et al ('867) in further view of Reiff et al ('737). Aforementioned, the prior art rendered obvious a blocked non-ionic water-dispersible polyisocyanate and a method for its production, however patentees fail to teach polyisocyanates corresponding to claims 4, 8, 18, and 19, the methodology of claims 9-10, or applications corresponding to claims 15-17.

6. Reiff et al teach water-dispersible blocked polyisocyanates comprising the reaction product of (i) polyisocyanates and (ii) non-ionic hydrophilic surfactants consisting of polyethylene oxide, which is then blocked with (iii) butanone oxime (Abstract; col 1 lines 11-25; col 7 lines 57-59; col 8 lines 42-52; col 10 lines 50, 58-59, 65). Useful polyisocyanates consist of trimerized hexamethylene diisocyanate (HDI) and modified toluene diisocyanate (TDI), wherein said modified TDI is reacted with trimethylol propane and the TDI consists of 2,4 and 2,6 isomers present in a ratio of 80:20 by weight (col 3 lines 30-31, 35-36; col 18 lines 65-67). Hence, it would have been obvious to utilize the polyisocyanate of Reiff et al in the composition of Baumbach et al based on the motivation that Reiff et al teach them useful in analogous applications and it is prima facie obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

7. What's more the blocking reaction takes place in methyl ethyl ketone solvent in an amount corresponding to applicants' claimed range, and therefore it would have been obvious to arrive at applicants' claimed solvent content based on the motivation that it is the preferred amount when blocking polyisocyanates with butanone oxime blocking agents (Col 11 lines 20-28, 65-67; and 1-3).

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8. Finally, patentees explain that the water-dispersible blocked polyisocyanates are useful in oil and/or water repellent textile coatings, and these coatings may further comprise perfluorinated polymeric compounds present in amounts relative to the blocked polyisocyanate by a 1:1 to 1:12 (Col 1 lines 11-15; col 11 lines 3-8 and 45-50; col 13 lines 19-25, 48-51; col 16 lines 62-64). The blocked polyisocyanates may also be combined with “impregnating liquor” at a concentration of 0.5-5-wt% which is taken to satisfy claims 16 & 17.

9. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the blocked polyisocyanates of Baumbach et al in oil and water repellent textile coatings based on the motivation that Baumbach et al and Reiff et al have analogous compositions and in obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound, and thus prima facie face of obviousness, rises from the expectation that compounds similar in structure will have similar properties. *In re Gyruik*, 596 F. 2d 1012, 201 USPQ 552 (CCPA 1979).

10. Claims 1-3, 5-7, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonderko et al (2002/0061999) in view of Buter et al (WO 97/19120) or in the alternative Ishiyama et al ('867). Jonderko et al teach reversibly blocked non-ionic water dispersible polyisocyanates and a method of their production comprising the reaction of (i) polyisocyanate and (ii) ethylene oxide based dihydroxy polyether, thereby forming an intermediate having free isocyanate groups which are then masked with (iii) isocyanate blocking agent (Abstract; paragraphs 2, and 9-11). Component (i) is reacted with (ii) at 60°C, then reacted with (iii) in the presence methyl ethyl ketone solvent, wherein (iii) consist of dimethyl pyrazole and methyl ethyl ketoxime, which is chemically synonymous with butanone oxime (Paragraphs 21, 31, 40, and 55;

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claim 14). Furthermore, (iii) is present relative to the free NCO groups in a slight stoichiometric excess, which is taken to satisfy the claims 6 and 13 (Paragraph 40). However, Jonderko et al fail to teach the claimed dihydroxy polyether.

11. As previously discussed, Buter et al also teach water dispersible compounds that comprise the reaction product of polyisocyanate and ethylene oxide based dihydroxy polyether, wherein said polyether consists of the same compounds claimed by applicants. Therefore, it would have been obvious to one of ordinary skill in the art to include the polyethers of Buter et al in Jonderko et al since they are disclosed by Buter et al as being suitable for rendering analogous composition hydrophilic and it is prima facie obvious to add a known ingredient for it's known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

12. Similarly, aforementioned Ishiyama et al teach water dispersible compounds comprising the reaction product of polyisocyanate and ethylene oxide based dihydroxy polyether having the same structure as claimed by applicants (Abstract; col 4 lines 29-32, 50-60). Therefore, it would have also been obvious to include the polyether of Ishiyama et al in Baumbach et al based on the same logic set forth for Buter et al.

13. Claims 4, 8-10 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonderko et al (2002/0061999) in view of Buter et al (WO 97/19120) or in the alternative Ishiyama et al ('867) and in further view of Reiff et al ('737). Aforementioned, the Jonderko et al in view of Buter et al and Ishiyama et al render obvious a non-ionic blocked polyisocyanate composition, however the prior art is silent in specifying the amount of solvent, applications that correspond to claims 15-17 or the polyisocyanates of claims 4, 8, 18, & 19.

14. Aforementioned, Reiff et al teach water-dispersible blocked polyisocyanates based on trimerized HDI and modified TDI which are blocked with butanone oxime in the presence of methyl ethyl ketone solvent, wherein said solvent is present in amount that satisfies the limitations of claim 9. Therefore, it would have been obvious to utilize trimerized HDI and modified TDI in Jonderko et al based on the motivation that Reiff et al teach them useful in applications analogous to Jonderko et al, and it is prima facie obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244. It would also have been obvious to arrive at applicants' claimed solvent content of claim 9 based on the motivation that it disclosed as being the preferred amount when blocking polyisocyanates with butanone oxime blocking agents.

15. Finally, Reiff et al explain that the water-dispersible blocked polyisocyanates preferably have a solids content between 25 and 50-wt%, the hydrophilic polyisocyanates are useful in oil and/or water repellent textile coatings, and these coatings may further comprise perfluorinated polymeric compounds present in amounts relative to the blocked polyisocyanate by a 1:1 to 1:12, which satisfies claim 15 (Col 1 lines 11-15; col 11 lines 3-8 and 45-50; col 13 lines 19-25, 48-51; col 16 lines 62-64). The blocked polyisocyanates may also be combined with "impregnating liquor" at a concentration of 0.5-5-wt% which is taken to satisfy claims 16 & 17.

16. Therefore, it would have been obvious to one of ordinary skill in the art to utilize the blocked polyisocyanates of Jonderko et al in oil and water repellent textile coatings based on the motivation that the prior art teach analogous compositions and in obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound, and thus prima facie face of obviousness, rises from the expectation that compounds similar in



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structure will have similar properties. *In re Gyruik*, 596 F. 2d 1012, 201 USPQ 552 (CCPA 1979).

17. Finally, it would have been obvious to utilize the solids content of Reiff et al in Jonderko et al since it is the preferred range for oil and water repellent textile coatings; in order to successfully employ the water-dispersible blocked polyisocyanates in such applications, one would be motivated to use the solids content disclosed by Reiff et al.

### ***Response to Arguments***

18. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection. Specifically, the newly relied upon references Yao et al ('518); Buter et al (WO 97/19120); and Ishiyama et al ('867) all teach the claimed non-ionic alkoxylated diol.

### ***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN J. GILLESPIE whose telephone number is (571)272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/  
Primary Examiner, Art Unit 1796

B. Gillespie